

XI.—Description of some new Species and four new Genera of Reptiles from Western Australia, discovered by John Gould, Esq. By J. E. GRAY, Esq., F.R.S., &c.

To the Editors of the Annals and Magazine of Natural History.

GENTLEMEN,

MR. GOULD having kindly placed in my hands the collection of Reptiles which he made during his visit to New Holland to gather materials for his 'History of the Birds of Australia,' I have sent you the description of the following species, which appear to be new to science. The two new genera are very interesting; the one, *Ronia*, being exactly intermediate in organization between the two-legged and the four-legged Scincs; and the other, *Moloch*, for its extraordinary appearance and grotesque forms.

I may remark, this collection contains two specimens of *Soridia lineata*, Gray, which MM. Dumeril and Bibron have accused me of erroneously describing as an Australian animal. (See 'Erpétologie Générale,' v. 787.) I believe that this has arisen from M. Bibron supposing all the Reptiles that he saw at the Chatham Museum to be from the Cape of Good Hope; whereas that collection is very rich in Australasian Reptiles. *Chelomeles* of MM. Dumeril and Bibron appears to be very nearly allied to *Soridia*, and should most probably be arranged with it in the family of *Rhodonidæ*.

Mr. Gould's specimens of *Delma* having enabled me to examine more minutely the characters of that genus, I am now convinced that it should be referred to the family *Pygopidæ*. It chiefly differs from the genus *Pygopus* in the small size of the rudimentary feet and in the absence of the pre-anal glands.

The genus *Lialis*, which heretofore has been placed with *Pygopus*, appears to be the type of a new family. It, *Delma* and *Pygopus* are all found in Western Australia, as is also the genus *Aprasia*, which ought, in my Catalogue of Slender-tongued Saurians (Ann. Nat. Hist. vol. i. and ii.), to have been arranged with the Apodal Scincs. On examining Mr. Gould's better-preserved specimen, I am inclined to consider it also as the type of a family characterized by the shields of the head and the position of the nostrils, to which, most probably, MM. Dumeril and Bibron's genus *Brachymeles* will also have to be referred. These genera will then range thus:—

Fam. LIALISIDÆ :—*Lialis*.

Fam. PYGOPIDÆ :—*Pygopus*, *Delma*.

Fam. RHODONIDÆ :—*Rhodona*, *Soridia*, *Chelomeles*.

Fam. APRASIADÆ :—*Aprasia*, *Brachymeles*.

RONIA, Gray.

Fam. Scincidæ.

Head rather shelving, shielded with one transverse frontal and two large vertebral plates, the hinder largest; the rostral plates large, with two unequal superciliary plates. The nasal plate triangular, interposed between the rostral plate and the frontal ones, with the nostrils in its centre; loreal plates two, square; labial plates large; ears none, only a very indistinct sunk dot in their place. Body cylindrical; tail conical, tapering. Scales smooth, ovate, imbricate, of the belly 6-sided. The front limbs very small, rudimentary, undivided; the hinder limbs moderately developed, ending in two very unequal toes, with distinct claws.

*Ronia catenulata*, Gray. Back with eight series of small black dots, one dot on the centre of each scale; cheeks black, speckled; sides and beneath whitish.

Body  $3\frac{1}{2}$ , tail  $2\frac{1}{2}$  inches.

Inhab. Western Australia. Mr. J. Gould.

The scales under the tail are rather larger, and the spots on the tail are rather larger than those on the back.

*Grammatophora cristata*. Nape with a crest of distinct, rather short, curved, compressed, spinose scales; back and tail with a series of compressed scales forming a slight keel; occiput with separate short strong conical spines; sides of the neck and back with folds crowned with series of short compressed scales; base of the tail with some scattered larger scales. In spirits, dull olive; crown black with large white spots, beneath black; middle of the belly and under sides of the base of the tail white; tail with black rings at the ends; feet whitish.

Inhab. Western Australia. Mr. J. Gould.

The underside is coloured somewhat like *G. maculatus* (*G. Gaimardii*, Dum. and Bibron), but the sides of the head near the ears are spinose, and the nape is distinctly crested. But as MM. Dumeril and Bibron's species is only described from a single specimen, which is in a bad state, and has lost its epidermis, and as the description itself, though long, refers chiefly to parts which do not differ in the species of the genus, this species may prove to be identical with it.

These authors, in giving the character of *Grammatophora Gaimardii* and *G. Decresii*, appear to place great reliance on the one having tubular and the other non-tubular femoral pores, which is a fact entirely dependent on the state in which the animal might be at the time when it was put into the spirits, as I have verified by comparing numerous specimens of different reptiles furnished with these pores.

But in this genus the size of the pores is apparently of less importance than in many others, for they appear to be quite invisible in some states of the animal: thus out of many specimens of *G. muricata* brought by Mr. Gould from Van Diemen's Land and Western Australia, eight specimens have no visible pores; these specimens differ from the others in being of a rather paler colour beneath. This state

of the pores may entirely depend on the manner in which they were preserved, for all these specimens had a slit made into their abdomen to admit the spirits; while in all specimens in which this care had not been taken the pores are distinctly seen, sometimes moderately sized, and sometimes tubularly produced.

*Grammatophora Decresii*, Dumeril and Bibron, Erp. Gén. iv. 472. ?

Tail conical, with nearly regular scales; the base rather swollen, without any series of spines on the side; back with small subequal scales and a few larger ones in cross series; the nape and back with a series of rather larger, low, compressed scales; side of the head near the ears and side of neck with two or three ridges crowned with short conical spines. In spirits black, yellow spotted and varied, beneath gray, vermiculated with blackish; tail black-ringed.

Inhab. Western Australia.

This species is so much smaller than *G. muricata*, that I might have considered them as young animals if one of them had not had the body filled with well-formed eggs; and the tail is much shorter than in the young of that species.

The specimens agree in most points with the description given by MM. Dumeril and Bibron, but not in the colour and the size of the tail. The specimens in this collection greatly differ in their colour, but are all very different from any other species.

*Grammatophora muricata*, Cuvier. The young animals have a series of small spines on each side of the base of the tail, and a series of spots on each side of the back.

Mr. Gould has brought home two very distinct local varieties.

*Var. 1. Diemensis.* Young dark-coloured, with vermiculated marks on the chin, chest, and abdomen. The adult dark, beneath gray, varied with black spots placed in irregular lines.

Inhab. Van Diemen's Land.

*Var. 2. Adelaidensis.* Young pale above and beneath, with three broad diverging black lines on the chin, leaving an oblong spot in the centre of the throat, with a broad streak on the chest separated into three lines on the abdomen, which unite together again on the pubis. The adult gray, with a few spots beneath.

Inhab. Adelaide, Western Australia.

MOLOCH, Gray.

Fam. Agamidæ.

Body depressed, covered with irregular, unequal, small, granular plates, each furnished with a more or less prominent central spine, and with a series of large, conical, convex, acute spines; head and limbs covered with similar scales and spines; head small, with very large spines over each of the eyebrows; tail with irregular rings of large acute spines; femoral and subanal pores none; teeth small, subequal; toes 5·5, short, covered above and below with keeled scales; claws long, acute.

The external appearance of this Lizard is the most ferocious of any that I know, the horn of the head and the numerous spines on the

body giving it a most formidable aspect. The scales of the back are small and unequal; they gradually increase in size as they approach the base of the conical spines, which is surrounded with a ring of larger scales with longer spines: the large spines are conical; rather compressed, spinulose below, smooth and acute at the tip, and are usually furnished with a sharp toothed ridge on the front edge, and sometimes on the hinder one. These spines only consist of a horny sheath placed on a fleshy process of the very same form and appearance as the spines they bear. The scales of the under side of the body are of the same form, and are furnished with similar but smaller and less produced spines than those of the back. The back of the neck of the only two specimens I have seen is furnished with a large rounded protuberance like a cherry, covered with large granular spinous scales, and armed on each side with a large conical spine; but I do not know if this is common to the species or merely accidental in these individuals; at any rate it adds considerably to the singularity of their appearance.

I have named this genus, from its appearance, after "*Moloch*, horrid king,"

*Moloch horridus*. Pale yellow, marked with dark brown regular spots; sides and beneath black-edged, dark red similar spots.

Inhab. Western Australia. Captain George Grey, Mr. J. Gould.

The marks on the body are very definite, but from the irregularity of their form they are not easily described. The lips are dark brown, with two streaks up to the small spines on the forehead; there is a dark cross-band from the base of the two large horns over the eyebrows, running behind and then dividing into two broad streaks, one along each side of the centre of the back of the neck to between the shoulders, crossing the nuchal swelling. In the middle of the back there is a very large black patch nearly extending from side to side, and over the loins are two oblong longitudinal black spots; the dark lines commencing from the lower angle of each eye extend to the legs, along the upper part of each side to the upper part of the groin. On the front of the fore- and hind-legs and the sides are marked similar dark bands. A dark band commences from the hinder part of the lower lip, merging in the throat, and expanding out so as to be united together at the back part of the chin. There is a large, rather oblong spot in the centre of the chest and the hinder part of the abdomen, separated from each by a large, somewhat triangular spot on each side of the middle of the abdomen; body  $4\frac{1}{2}$  inches.

This is the Spinous Lizard exhibited by Mr. Gould at the meeting of the Zoological Society, on the 25th day of August, 1840.

*Breviceps Gouldii*. Smooth, with a few scattered low tubercles; gray-brown, yellowish beneath.

Inhab. Western Australia.

This animal has all the external appearance and character, as far as they are given in MM. Dumeril and Bibron's work, of the *Breviceps gibbosus* of the Cape of Good Hope, except that it has not the yel-



low dorsal band, and the back is scarcely to be designated as granular. It is the second species of the genus, and only the second Toad found in Australia, the other being *Phreniscus australis*, which I described in the 'Proceedings of the Zoological Society' under the name of *Bombinator australis*.

UPEROLEIA, Gray.

Fam. Ranidæ.

Head large; palate quite toothless; upper jaw with small close teeth; the tympanum hid under the skin; the toes of the fore- and hind-feet elongate, slender, quite free; the ankle with a roundish external and a small conical inner tubercle; the tongue small, oblong, roundish, and entire behind.

This genus is most nearly allied to *Leiuperus* of MM. Dumeril and Bibron, with which it agrees in having no teeth on the palate, but it differs from it in the tympanum being quite hid.

The internal nostrils are some distance in front of the cross-ridge on which the palatine teeth are generally placed.

*Uperoleia marmorata*. Black and green marbled, leaving a triangular greenish spot on the forehead, beneath lead-colour.

Inhab. Western Australia.

Dr. Tschudi has formed a genus under the name of *Crinia*, which appears by his characters to be nearly related to the above; but MM. Dumeril and Bibron (Erp. Gén. viii. 416) observed that the specimens he described have two very small groups of teeth on the vomer.

*Hyla bioculata*, Gray. Slender; fore-toes quite free; hinder toes webbed to the last joint (in spirits). Grayish white, with a series of very small, indistinct, oblong tubercles, with a dark streak from the nostrils to the shoulder, enclosing the eyes, and a white streak below it from the under side of the eye; sides purplish, with small white spots; back of the thighs purple, with two yellow spots; belly and under side of thighs whitish, granular.

Var. 1. Back of thighs with one or two additional yellow spots.

Var. 2. Back bluish gray; back of the thighs with six or seven small subequal yellow spots.

Inhab. Western Australia.

*Hyla Adelaidensis*, Gray. Slender; fore-toes quite free, hinder toes webbed to the last joint; (in spirits) gray-blue, with a series of small oblong tubercles; the sides purple-brown, with a white streak from the under side of the eyes to the shoulders; sides of the belly and region of the vent purplish, with small white spots; the hinder side of the thighs purple-brown, with three large oblong white spots; belly and under side of thighs granular; chin white, brownish dotted; palatine teeth in two roundish groups between the internal nostrils.

Inhab. Western Australia.

## HELEIOPORUS, Gray.

Fam. Ranidæ.

Head short, swollen; eyes large, convex; palatine teeth in a straight interrupted ridge between the two internal nostrils; teeth very small; body swollen; skin of the back minutely granular, of the belly smooth; legs rather short; toes 4·5, short, warty beneath, quite free; the hind wrist with a large, oblong, compressed, internal tubercle; the base of the inner finger with a conical wart, ending in a small acute bony process; tongue large, entire behind.

This genus has many of the characters of *Cystignathus*, but differs from it in being warty and swollen, and in having short toes like a Toad.

*Heleioporus albo-punctatus*. Lead-coloured (in spirits), with white spots; beneath dirty white, with some small white warts at the angle of the mouth; legs smooth.

Inhab. Western Australia.

*Cystignathus dorsalis*. The palatine teeth in a single large straight line, just behind the inner nostrils; tongue large, slightly nicked behind; the tympanum nearly hid under the skin, gray-brown (in spirits), marbled with dark irregular spots, with a white streak down the middle of the forehead and front of the back; sides pure white, spotted and marbled with black, beneath white; toes elongate, slender, tapering; back part of thighs brown, white speckled.

Inhab. Western Australia. J. Gould.

This species is very distinct from *C. Peronii* and *C. Georgianus*, the two Australian species described by MM. Dumeril and Bibron. It agrees with the former in the disposition of the palatine teeth.

*Elaps Gouldii*, Gray. Pale yellowish; the scales of the back small, six-sided, with a dark anterior margin, giving the back a netted appearance; top of the head and nape black, with a yellow spot on the rostral scale on each side just before the eyes; head small; the occipital plates large, elongate; the nasal plate triangular; one moderate anterior, and two subequal posterior ocular shields; six upper and lower labial shields, the fourth under the eyes; eyes small, pupil round.

There is an indistinct small yellow spot behind the upper part of the eye; but this may be an accidental variety, as the spots on the two sides are not equally defined.

Inhab. Western Australia.

This species resembles *Calamaria Diadema*, which is also found in Western Australia; but it is larger, and the head is larger in comparison with the body, and in this species it is the base of the scales, while in the latter it is the outer margin that is dark.